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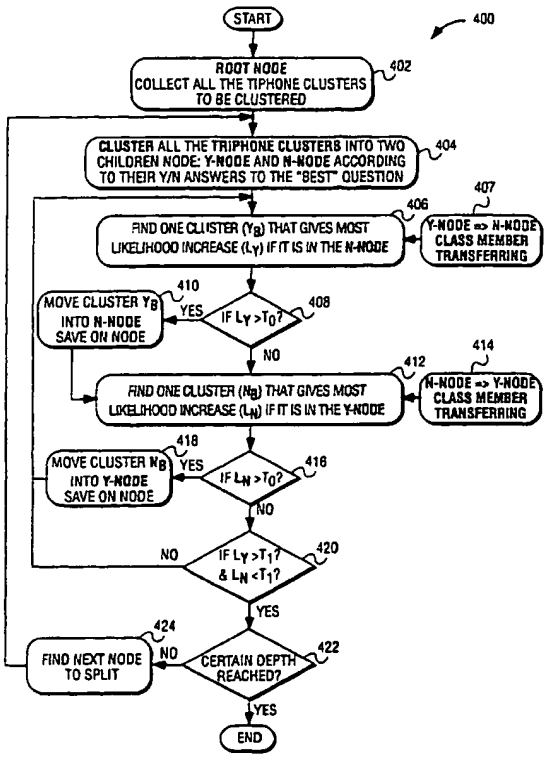
(54) Title: METHOD AND SYSTEM FOR GENERATING AND SEARCHING AN OPTIMAL MAXIMUM LIKELIHOOD DECISION TREE FOR HIDDEN MARKOV MODEL (HMM) BASED SPEECH RECOGNITION



(57) Abstract: A method and system for generating and searching an optimal likelihood decision tree for hidden markov model (HMM) based speech recognition are described. Speech signals are received. The received speech signals are processed to generate a plurality of phoneme clusters. The phoneme clusters are grouped into a first cluster node and a second cluster node. A determination is made if a phoneme cluster in the first cluster note is to be moved into the second cluster node based on a likelihood increase of the phone cluster of the first cluster node from being in the first cluster node to being in the second cluster node.

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